Unlocking the Therapeutic Potential of the Genus Senecio (Asteraceae): Essential Oil Composition and Pharmacological Insights

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Abstract

Senecio is the largest and most complex genus in the family of the Asteraceae with more than 1,500 species distributed widely throughout the world. A comprehensive search of the electronic databases (1986–2023) using the keywords of 'Senecio' and 'essential oil' revealed that an essential oils composition breakdown is available for 57 species, with α-pinene, α-farnesene, germacrene D, p-cymene, myrcene, α-terpinene, and caryophyllene oxide being the most identified components. The pharmacological activities have been summarized of different species including antimicrobial, antioxidant, repellent, antifungal, acaricidal, anti-inflammatory, cytotoxicity, phytotoxic, anticholinesterase, allelopathic, nematicidal, antimalarial, antileishmanial, α-glucosidase, anticorrosive, analgesic, and toxicity. This review is expected to lay the foundation for further studies of this genus and provides guidance for selecting accessions of species with the best chemical profiles.

Author keywords

antimicrobial; Asteraceae; composition; essential oil; Senecio; α-pinene

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